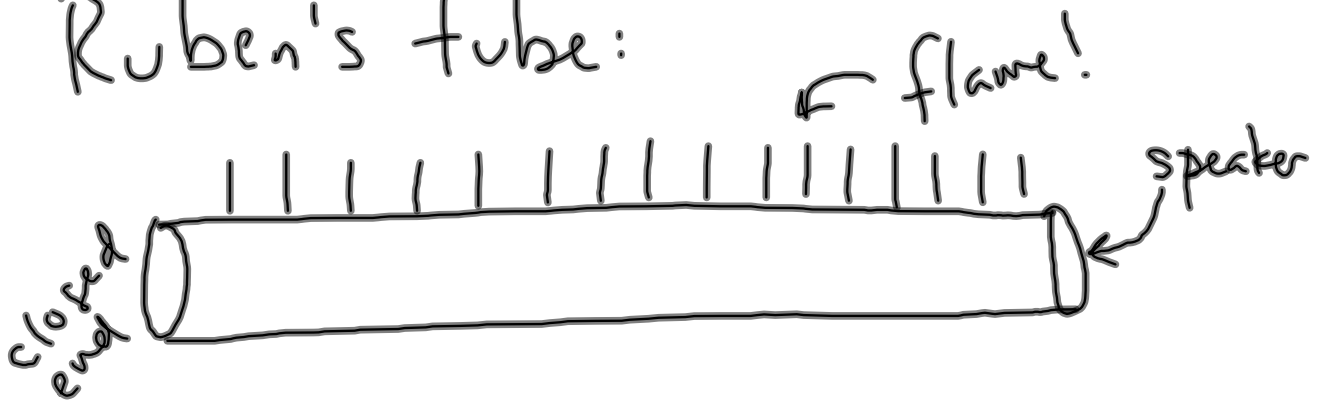
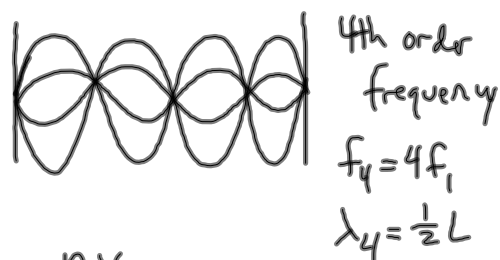
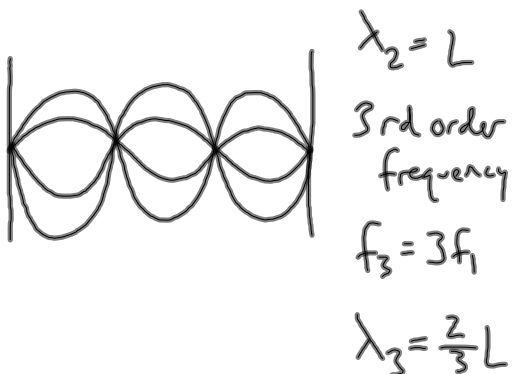
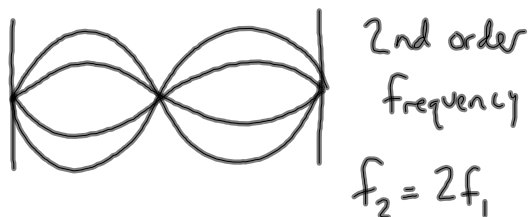
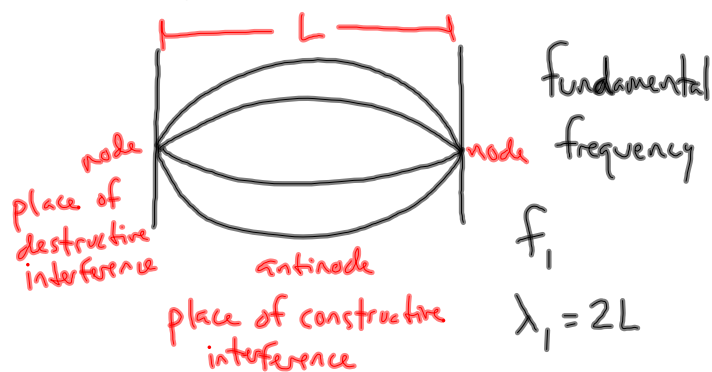


Ruben's tube:



Standing wave is created in the tube, and the flames represent the nodes and antinodes.

# Standing Waves:



$$f_n = \frac{nv}{2L} \quad n=1,2,3,\dots$$

$f_n \rightarrow$  frequency of the  $n$ th harmonic

$n \rightarrow$  harmonic number

$v \rightarrow$  speed of the wave on the string

$L \rightarrow$  length of the string

Standing Wave in Open/Open Pipe:

